

## **REMARKS**

Applicants thank the Examiner for withdrawing the previous grounds of rejection of claims 1 and 2 under 35 U.S.C. § 112, second paragraph, claim 1 under § 102(e) over U.S. Patent No. 6,428,861 to France et al., and claim 2 under § 103(a) over France in view of U.S. Patent No. 4,374,717 to Drauglis et al.

The present application is now believed to be in condition for allowance, with pending claims 1, 2 and 5-14.

### **I. Status of the Claims**

Claims 1, 2, and 5-14 are pending in this application. Claims 1 and 2 have been amended to remove allylamine and allyl alcohol from the recited group from which the monomer is selected. Non-elected claims 3 and 4 have also been canceled. As suggested by the Examiner, the instant specification and claims 8 and 13 have been amended to correct minor informalities. No new matter has been added.

### **II. Specification**

The Examiner objected to the specification for its recitation of "25-35°C" instead of --25-35 microns--. Final Office Action, page 2. In response, Applicants have amended the specification to recited --25-35 microns--, as suggested by the Examiner. Thus, Applicants respectfully request that the Examiner withdraw the objection to the specification.

### **III. Claim Objection**

The Examiner objected to claims 8 and 13 due to the recitation of "silicon rubber" instead of --silicone rubber--. Final Office Action, page 2. In response, claims 8 and 13

have been amended to recite --silicone rubber--, as suggested by the Examiner.

Accordingly, Applicants respectfully request that the Examiner withdraw the now moot objections to claims 8 and 13.

**IV. Rejections under 35 U.S.C. § 103(a)**

In the Final Office Action, the Examiner made the following rejections under 35 U.S.C. § 103(a):

- a) Claims 1 and 9 over what the Examiner characterizes as “applicants' admitted state of the art” (“State of the Art”)<sup>1</sup> in view of U.S. Patent No. 6,428,861 to France et al. (“France”).
- b) Claims 2 and 14 over the State of the Art in view of France, and further in view of U.S. Patent No. 4,374,717 to Drauglis et al. (“Drauglis”);.
- c) Claims 5-8 over the State of the Art in view of France, and further in view of JP 01038418 (“JP ‘418”); and
- d) Claims 10-13 over the State of the Art in view of France, further in view of Drauglis, and further in view of JP ‘418. Final Office Action, pages 2-9.

Applicants respectfully traverse these rejections for the reasons discussed below.

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<sup>1</sup> Applicants do not concede that their own disclosure is “prior art.” Further, even to the extent it recites what was known in the art, Applicants submit that their disclosure is being improperly relied upon by the Examiner as a hindsight guide to reconstructing the claimed invention based on Applicants’ recognition and solution to a problem not otherwise addressed in any of the references relied upon by the Examiner.

**The reference combinations fail to teach or suggest all the monomer, as claimed.**

As a preliminary matter, Applicants respectfully submit that all the present rejections under § 103 are deficient for not teaching or suggesting the monomer, as claimed. In particular, all the present rejections rely on France (and only France) for monomers according to the present claimed invention. The Examiner specifically contends that France discloses allylamine and allyl alcohol, but does not cite France for any other monomers according to the presently claimed invention. However, as amended herein, claims 1 and 2 no longer recited allylamine and allyl alcohol as members of the group from which the monomer is selected. Therefore, in addition to the deficiencies noted below, the reference combinations do not teach or suggest the monomer as claimed, and do not support a prima facie case of obviousness against claims 1 or 2, or claims 5-14 that ultimately depend from either claim 1 or 2. MPEP § 2143. For at least this reason, reconsideration and withdrawal of the rejections under § 103 are respectfully requested.

**A. Claims 1 and 9**

**1. There is no teaching, suggestion, or motivation for using a product from France in an EMC application.**

The Examiner does not cite France or the State of the Art for providing any teaching, suggestion, or motivation for using a product according to France with an epoxy resin to form an epoxy molding compound (EMC), as claimed.<sup>2</sup> In fact, as

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<sup>2</sup> To establish a prima facie case of obviousness over a combination of references, the Examiner must show, *inter alia*, some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings. M.P.E.P. § 2143. Moreover, the Federal Circuit has held that there must be a "clear and particular" suggestion in the prior art to combine the

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admitted by the Examiner, "it is not known in the art to modify silica surface by plasma polymerization coating with a monomer selected from the group consisting of allylamine and allyl alcohol to improve adhesion of silica to epoxy resin." Final Office Action, page 3, paragraph 7. (Emphasis in original).

Nevertheless, the Examiner contends that France teaches, *inter alia*, modifying the surface of silica powder by coating the silica using plasma polymerization of a monomer, wherein said monomer is allylamine or allyl alcohol, which can be used to improve the flowability, dispersability, solubility and adhesive properties for the use in rubber, paint etc. *Id.* The Examiner further contends that, based on alleged common knowledge, "coating of plasma polymerized allylamine or allyl alcohol would provide silica surface with hydroxy and amino groups, which would form chemical bonds between silica and epoxy resin thereby improving *adhesive properties* of silica for resins," and makes the conclusion that it would have been obvious to use the modified silica in EMC "with the expectation of providing the desired improved adhesive properties of silica for resins ...." *Id.* at page 4 (emphasis in original). Applicants respectfully disagree, and respectfully traverse the rejection.

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teachings of cited references as proposed by the Examiner. *In re Dembiczak* 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Furthermore, the Federal Circuit requires that the record contain "substantial evidence" to support the Examiner's determinations of prima facie obviousness. *In re Zurko*, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001). Specifically, unless "substantial evidence" found in the record supports the factual determinations central to the issue of patentability, the rejection is improper and should be withdrawn. *Id.*

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As the Federal Circuit emphasized in *Zurko*, the Examiner cannot rely on alleged “basic knowledge” to support an obviousness determination when the “assessment of basic knowledge . . . [is] not based on any evidence in the record and, therefore, lacks substantial evidence support.” *Id.* at 1385. Instead, the Federal Circuit requires “some concrete evidence in the record in support of these findings.” *Id.* at 1386 (emphasis added).

In the present case, there is no evidence in the record to support the Examiner's contentions. In particular, after admitting that “it is not known in the art to modify silica surface by plasma polymerization coating with a monomer selected from the group consisting of allylamine and allyl alcohol to improve adhesion of silica to epoxy resin” (Final Office, page 3, paragraph 7 (emphasis in original)), it is clear that the rejection is deficient for lacking any teaching or suggestion and any motivation for using plasma modified silica according to France in an EMC. In fact, none of the information relied upon by the Examiner properly teaches or suggests, or provides any motivation for using a product from France in an EMC application.

Applicants' disclosure is the only source of any disclosure related to EMC according to the present rejection. Given this, and the prohibition on using Applicants' disclosure as a guide, e.g., M.P.E.P. § 2142 (“the examiner must then make a determination whether the claimed invention ‘as a whole’ would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination . . .”); *Dembiczak* at 1617 (“Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the

teaching or motivation to combine prior art references.”); *Kansas Jack v. Kuhn*, 219 USPQ 857 (Fed.Cir. 1983) (“To the extent [Applicant’s] own disclosure was employed ... the procedure was an improper employment of hindsight.” (internal citations omitted)), it is clear that the prior art fails to teach or suggest all the claimed limitations, as is necessary to establish a prima facie case of obviousness. Characterizing Applicant’s own disclosure as “admitted prior art” does not overcome the deficiency of the rejection with respect to teaching or suggesting, and providing motivation for using a modified silica according to France with epoxy to form an EMC.

In light of the above stated reasons, Applicants respectfully submit that the rejection is legally and factually unsound, and therefore should be withdrawn.

**B. Claims 2 and 14**

As admitted by the Examiner, “France et al fail to teach an operating power level” and “Applicants’ admitted state of the art in view of France et al fail to teach that plasma power is of 10-40W, and reactor is rotated at 1-50 rpm.” Final Office, page 5, paragraph 8. According to the Examiner, however, “Drauglis et al teach that deposition rates of acetonitrile polymer from acetonitrile monomer are directly proportional to power level and operating pressure; and for the polymerization of acetonitrile monomer it is preferred to operate radio frequency generating apparatus at a power level of 25 Watts.”

*Id.* The Examiner further contends that “it is clear from teaching of France et al that rotating speed ... is a result-effective variable” and that “[i]t would have been obvious ... to have determined optimum values of the relevant polymerization coating process parameters (including claimed power level ... and claimed rotating speed ...) in a plasma polymerization process of France et al through routine experimentation in the

absence of a showing of criticality." *Id.*, pages 4-5. Applicants respectfully disagree with and traverse the rejection at least for the reasons discussed *supra*, and for the reasons discussed further below.

First, the Examiner has not shown any connection between the claimed conditions according to Claim 2 and the deposition rates of acetonitrile polymers according to Drauglis. In particular, while 25 W of RF power may be preferred according to Drauglis, there is no basis for the Examiner to infer that this would also be preferred operating power for a process according to France. In fact, given that Drauglis is directed to the adhesion of sputtered chromium (or chromium alloys) to organic urethane substrates (Abstract), while France is relied upon for coating of inorganic silica particles and does not involve adhesion of metal coatings, Applicants respectfully submit that there is no basis to extrapolate operating conditions from Drauglis to France, as proposed by the Examiner.

Second, although the Examiner contends that it is clear from teaching of France that rotating speed is a result-effective variable, no evidence is cited to support this statement. As the Examiner is aware, optimization of a variable cannot be considered routine unless the variable was previously recognized as result effective. *In re Antonie*, 559 F.2d 618, 195 USPQ 9 (C.C.P.A. 1977) (internal citations omitted). Absent such evidence, the rejection is improper and should be withdrawn.

Finally, Drauglis does not cure the deficiencies of the combination of the State of the Art and France, as discussed above with respect to claims 1 and 9. Rather, Drauglis teaches improving the adhesion of sputtered chromium coatings by depositing acetonitrile polymer underlayers. See col. 1, lines 9-12. Thus, Drauglis hardly suggests

a "method of enhancing adhesion between silica and epoxy resin by surface modifying silica by plasma polymerization coating," as recited by instant claim 2.

**C. Claims 5-8**

The Examiner correctly acknowledges that the State of the Art in view of France *fails* to teach the limitations of claims 5-8. Final Office, page 6, paragraph 9. The Examiner, however, summarily concludes that the instant claims would be obvious in view of the combined teachings of JP '418, i.e., "a [molding] material for sealing electronic components prepared by adding a silicone rubber to epoxy resin molding material prepared by adding a crosslinking agent (hardener), a cure accelerator (promoter), a coupling agent and a filler to a an epoxy resin has improved cracking resistance." *Id.* at page 6. Applicants respectfully disagree for at least for the reasons discussed *supra*, and respectfully traverse the rejection and request its reconsideration and withdrawal.

**D. Claims 10-13**

The Examiner correctly acknowledges that the State of the Art in view of France further in view of Drauglis "fails to teach that the epoxy resin comprises hardener and a promoter (Claim 10); combining the surface modified silica and epoxy resin to form EMC comprises forming a homogeneous mixture (Claim 11) and introducing the homogeneous mixture into the mold (Claim 12) such as silicone rubber mold (Claim 13)." Final Office pages 7-8, paragraph 10.

Incorrectly, however, the Examiner relies on the disclosure of JP '418 to support its idea that instant claims 10-13 would be obvious. As discussed above, other than



Applicants' invention disclosure, there is nothing in the record to support that Office's conclusion. Thus, the rejection should be withdrawn for at least this reason.

### **CONCLUSION**

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1, 2, and 5-14 in condition for allowance.

Applicants submit that the proposed amendments of claims 1, 2, 8, and 13 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments and new rejection as to the application of the art against Applicant's invention.<sup>3</sup> It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and reexamination of this application, and the timely

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<sup>3</sup> For example, all the present rejections under 35 U.S.C. § 103 were first made in the Final Office Action to which this Amendment responds

allowance of the pending claims. Early and favorable indication of the same is earnestly solicited.

Additionally, the Examiner is invited to telephone the Applicants' undersigned representative at (202) 408-4092 if it would be helpful to further expedite the prosecution of this application and, thereby, minimize time and expense.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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